



The new story of
SEEING

What the NEW SCIENCE of SEEING means to you



The new Science of Seeing affects every one of us; in our comfort, health, efficiency, appearance—in our general adjustment to life. That is because it has to do with eyes and our *use* of them. Consequently, it has to do with our whole physical and nervous well-being, since that is linked with our eyes and inevitably reflects their condition. This new science proves that normal, healthy eyes are dependent on the quantity and quality of light they see by.

Scientists have worked many years to evolve the principles of this new science. They have made hundreds of thousands of observations on eyes and the way people use them. They have reduced the fundamental principles of their findings to definite, easy-to-understand laws which we can all apply to ourselves.

The tasks we use our eyes for cannot be changed very much. To a great degree they are prescribed for us—from the child who has his schoolroom routine, to the grown people who read and sew or otherwise do close work most of the day. We have been able to change our eyes themselves only by calling upon the eyesight specialist's skill, and, if glasses were prescribed, wearing them as we might use any other crutch. Not until the last quarter century have our scientists realized we might go further and, as individuals, *control* the light by which we do all this seeing.

By knowing the fundamentals of this marvelous new science, and by applying them where we live and where we work, we can prevent or greatly help to prevent, the eye damage that is now so widely prevalent.

The NEW STORY of SEEING

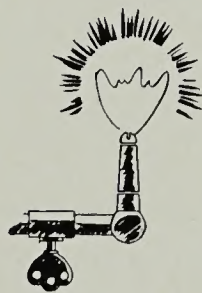


Hundreds of thousands of years ago, a smelly fagot amply took care of all lighting needs. For man was born a creature of the outdoors and his day extended only from dawn to dusk. This method of lighting continued for countless centuries, with improvements only in fuel and the use of more practical and beautiful receptacles for the oil. Eventually came the candle, but it, too, possessed decided disadvantages. It was still smelly; the wind made it a fire hazard; it had to be burned upright; it was inconvenient in that it had to be carried from place to place and that it had to be lighted with another flame.



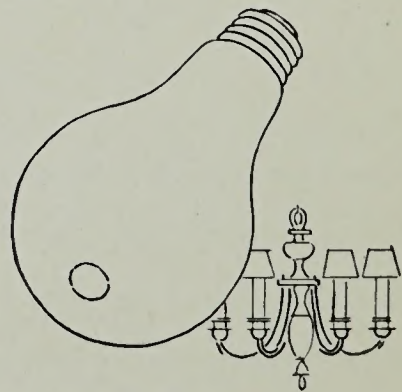
As civilization advanced, lighting methods advanced slowly with it. The oil lamp brought greater convenience, but the fire hazard still remained an extreme drawback. And how often the smoky chimneys needed cleaning. Then came gas, with its brittle mantle, and in many homes this method of lighting is still to be found.

It was not until Edison discovered how to produce light electrically within a bottle, that the world made any marked progress in lighting.



Think of each minute mark on the clock as representing at least ten thousand years. In the last third of a second has come the entire advance in the art of lighting! Now we can have a light which can be burned in any position. It is convenient to use and is variable in size. The fire hazard is gone—and so is the smell.

But just because you have this great modern convenience do not assume that you have adequate lighting. The chances are you haven't, for not more than one home in ten uses electric light effectively for comfort, convenience, safety and eye protection.



WE COME INDOORS

But with all our advance during the last half century we have still known little about light and its greatest use—that of helping eyes to develop strongly and naturally—of helping eyes to see clearly and with the minimum of effort. But now, thanks to the new Science of Seeing, we are beginning to learn some very interesting and fundamental facts about the relation of light to sight. To appreciate the full significance of the Science of Seeing, however, we must first understand the conditions under which our eyes have developed.

Primitive man used his eyes almost entirely out-of-doors under very high intensities of daylight—intensities hundreds of times greater than we find indoors today. When the sun went down his tasks were ended for the day. And he used his eyes for distant, not close seeing—hunting, fishing and the most menial of seeing tasks. Even in Abraham Lincoln's time very few people studied or sewed or read as we do—far into the night.

Modern civilization has completely changed all this. We have lightly tossed aside the fact that our eyes were in the process of developing for hundreds of thousands of years—and developing for distance seeing under tremendous quantities of natural daylight. In the last few seconds on the clock of time we have taken liberties with all four of nature's principles—distance seeing, lots of light to aid our eyes, a relatively short day, and easy visual tasks. Instead, we have substituted close seeing indoors, extremely low levels of lighting, a much longer day, and abnormally severe tasks.

The eye is a marvelous organ, but not so remarkable that it is able to adapt itself in the short space of a few seconds on our six-hundred-thousand-year clock to the severe change we have imposed upon it. Perhaps that is why so much eye trouble is prevalent today. Why, for example, damaged eyesight is found to the following degree among people of varying ages:

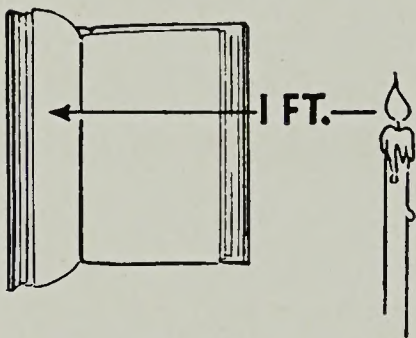
Grade school	20 per cent
Through college	40 per cent
40 years	60 per cent
60 years	95 per cent



10,000 footcandles Upwards of 1,000 500 footcandles 200 footcandles 4 footcandles

NATURE'S PLAN OF LIGHTING

Let's take a look at nature's lighting intensities as contrasted with man's, and see for our-



A footcandle is the amount of light a candle casts on a surface one foot away

selves what little progress we've made. Sunlight measures around 10,000 footcandles. But, you ask, what is a footcandle? A

footcandle is a standard unit of light just as a degree is a measurement of

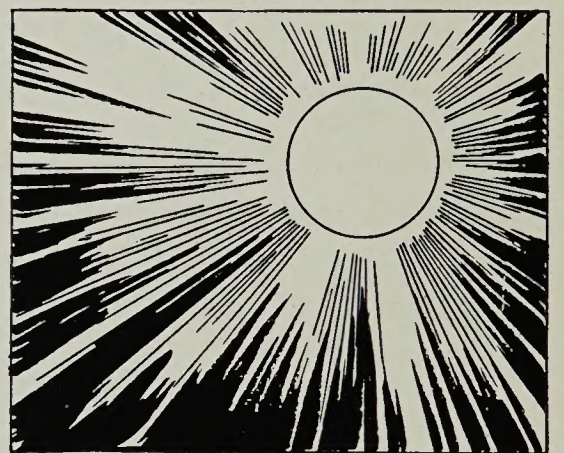
temperature. It is easy to understand. All you have to remember is that it represents the amount of light a candle will cast on a surface placed one foot away.

Maybe 10,000 footcandles of light is a bit uncomfortable for reading black print on white paper, so you draw yourself under the shade of a tree where there is upwards of 1,000 footcandles. With what pleasure and eye comfort you read here! Or take your book to the front porch. On a clear day you'll enjoy light equivalent to 500 footcandles. Or near the window, indoors, even on only a fairly clear day, you find your eyes benefiting from an intensity of 200 footcandles.

Then night compels you to go indoors, where you may use your eyes more for close work—such as reading and sewing—than during the daytime. But have you 1,000 footcandles of light to help accomplish your task with ease



Eyes were developed for distant seeing



Light of extremely high brightness



Nature's plan was a short day



Primitive tasks were easy on the eyes



Now we use eyes for close seeing



Light of relatively low brightness



Man's day extends into the night



Today's tasks involve fine details

and comfort? By no means. Nor 200 either. Most of us blithely turn on a 40-watt bulb in a bridge lamp and proceed to read our paper or book under three to five footcandles—less than one-half of one per cent of the ideal we struck under the shady tree!

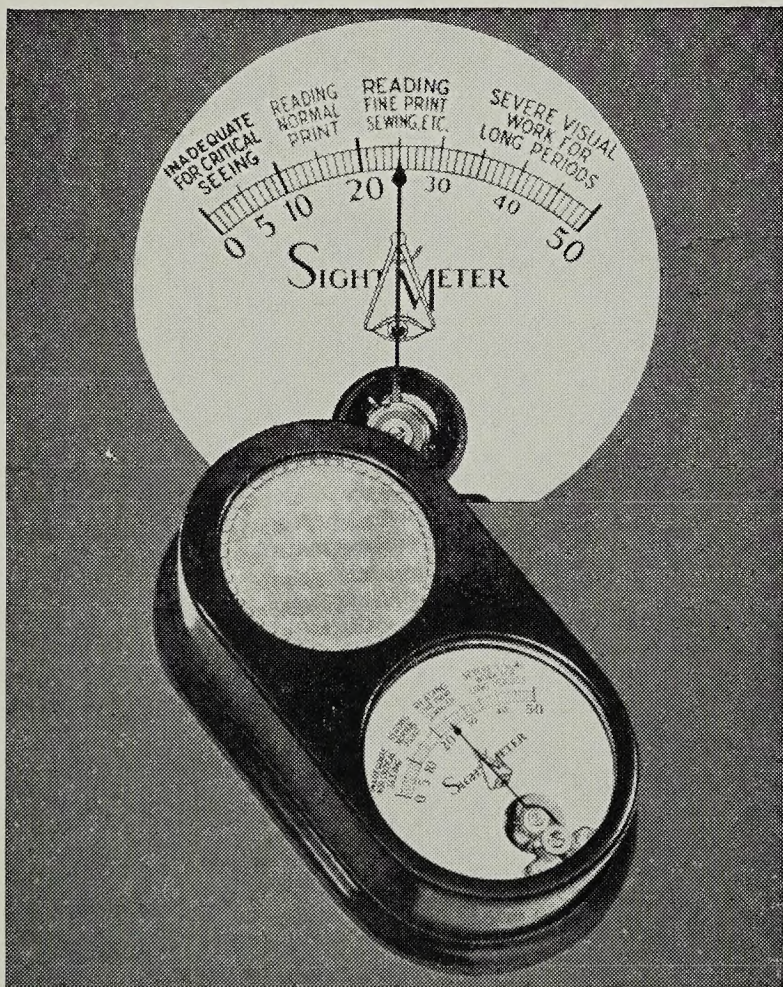
It is under such poor seeing conditions that eyestrain develops, and eyestrain eventually leads to defective vision. Practically all of us are born with normal vision, but by the time school age is reached we have already formed the habit of reading and working in half-light. This we continue to do year after year until our eyes finally rebel and only the kindly services of an eyesight specialist can compensate for our needless abuse.

And in an Office

In these days of business efficiency you would think that office and factory lighting would be equally modern. What are the facts? If you are fortunate enough to have your desk or lathe near a window, you may have 50 footcandles of illumination. But if you are ten feet away you may be getting only eight and at some distance from the window the intensity may be as low as one or two footcandles. With all the artificial light turned on, the amount may be increased at this point to six, seven, or eight footcandles. Less than a hundredth of what nature gives us under that tree!

A WONDERFUL NEW INSTRUMENT

How, you ask, can you determine the intensity of illumination in footcandles? How can you know you have 200 near that window and just four when your book is 30 inches away from that 40-watt bulb in the bridge lamp? Instruments for measuring light have been available for years, but they were complicated and costly. Now a new instrument has been perfected—one that not only measures light as accurately as a thermometer measures temperature, but one which at the same time indicates the amount of light science prescribes for tasks of varying degrees of severity. These specifications are the result of more than 20 years of research in which scientists studied eyes and people's use of them. Hundreds of thousands of observations were made and recorded, and out of this research has come the simple rules which now enable everyone of us to employ light in a scientific way.



This new instrument, called a Sight Meter, has a twofold purpose. It measures the amount of light NOW on your task, and it indicates the amount you SHOULD have for easy seeing



The Sight Meter at work. Take it to the various places in your home, or in your plant or office, where eye work is done and let it help to guide you in securing the kind of lighting that is kind to your eyes

WHAT ARE WE CONCERNED WITH *in* SEEING?

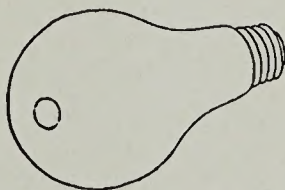
In the process of trying to see we have but three factors to consider. Two of them we have little or no control over; the third is the one variable which we can turn to if we want to make our seeing task easier—if we want to help preserve our most precious possession—our eyesight. These three factors are:



The Visual Task—Usually we must accept our tasks as they are. If we are typing in an office we must continue to type. However, we can refuse to permit our children to read very fine type or perform abnormally difficult visual tasks. We can refuse to be satisfied with unnecessarily poor conditions for seeing when difficult tasks are involved!

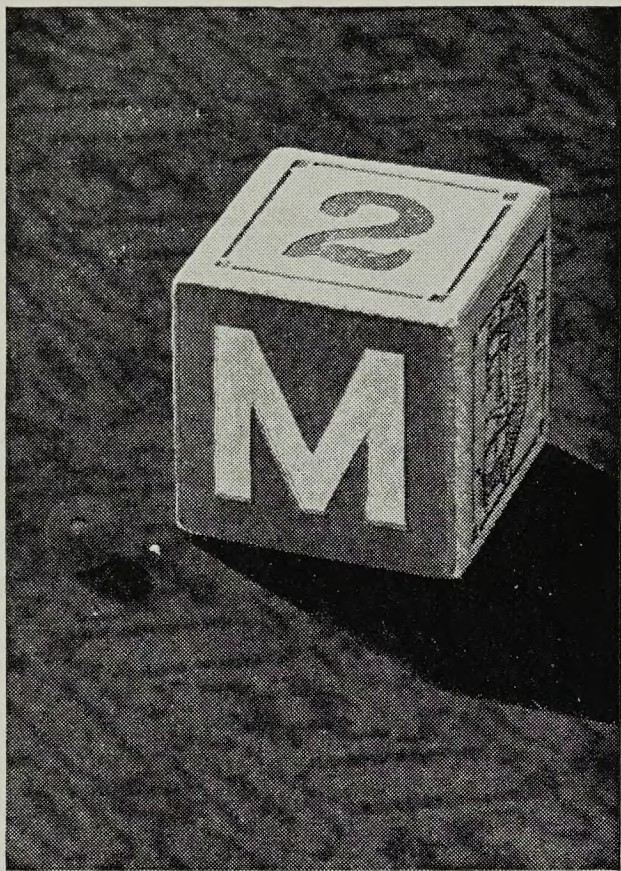


The Eyes—A wonderfully exact science has been developed for correcting eye defects with glasses. For defective eyes, there are no substitutes for the services of the eyesight specialist.

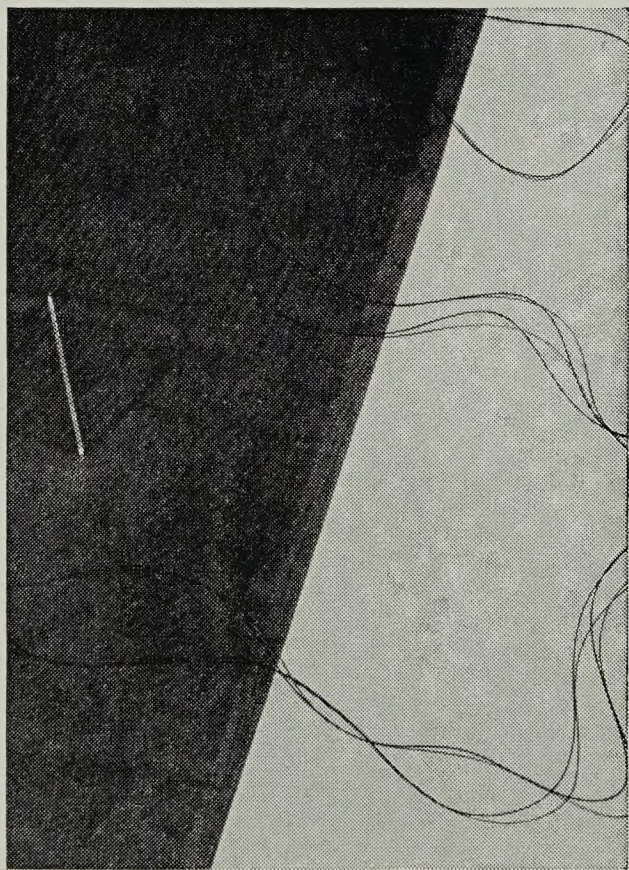


Lighting—Better lighting is the only factor for improving seeing which is applicable to *all* classes of eyes and to *all* visual tasks. It is completely controllable by lighting specialists. All of us can do something about it!

4 THINGS THAT



The size of an object has a direct bearing on the amount of light we need. It takes less light to locate baby's alphabet block than it does to find a small bead



To produce brightness is the primary purpose of light. Brightness depends upon two things: the amount of light and the color of the object

The clearness, quickness and ease with which we see objects depends upon four important characteristics of the objects. These are the size of the object, its contrast with its background, the amount of light falling upon it, and the time available for looking at it. However, only one of these factors—quantity of light—is usually controllable. In sewing, for example, the size of the thread and its contrast with the cloth are fixed by the nature of the sewing to be done. We can take longer to do the work—or we can improve the lighting. Fortunately, the handicap of small sizes or low contrasts can be offset, in most cases, by an increase in the amount of light upon the work. Hence, a knowledge of these fundamental factors will aid in deciding how much light is needed for various tasks.

A newspaper is more difficult to read than most books—even though the letters are of identical size. In fact, measurements show that the newspaper should receive three times as much light as the book in order that the two tasks should be of equal visibility. In this case the handicap of lower contrast is compensated for by more light.

When driving an automobile, it is often necessary to see signals or signs in a fraction of a second. But it takes time to see! This time has been accurately measured and it is now known that we often fail to see signals because their visibility is too low for the short time available for seeing. Higher intensities of illumination shorten the time required to see—or, in other words, increase our speed of vision.

INFLUENCE EACH SEEING TASK

In recommending the following footcandles for various common tasks, the fundamental factors of size, contrast and time have been appraised and used as a basis for the footcandles given.

100 Footcandles or More—For very severe and prolonged tasks, such as fine needle-work, fine engraving, fine pen-work, fine assembly, sewing on dark goods and discrimination of fine details of low contrast, as in inspection.

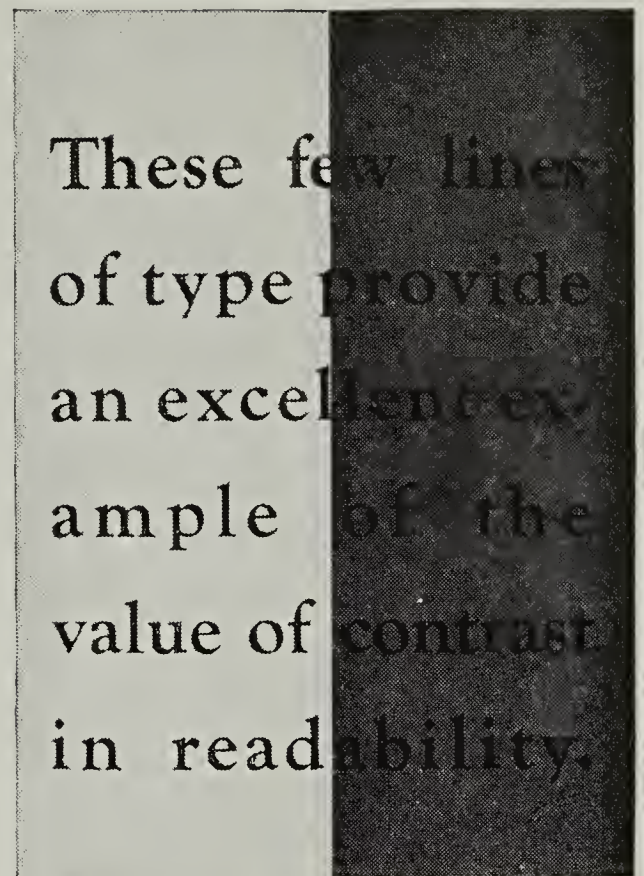
50 to 100 Footcandles—For severe and prolonged tasks, such as proofreading, drafting, difficult reading, watch-repairing, fine machine work, average sewing and other needle-work.

20 to 50 Footcandles—For moderately critical and prolonged tasks, such as clerical work, ordinary reading, common bench-work and average sewing and other needle-work on light goods.

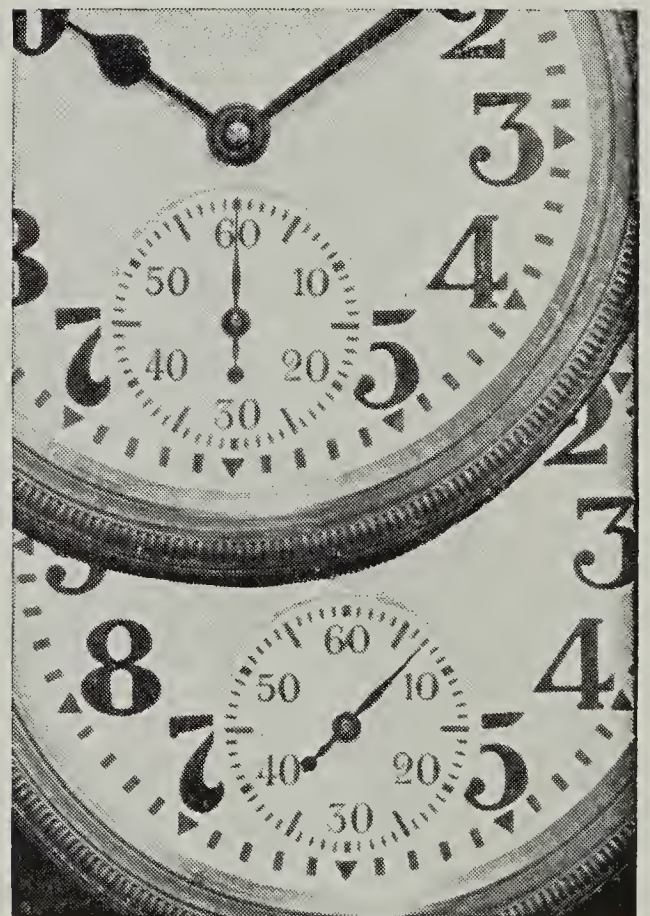
10 to 20 Footcandles—For moderate and prolonged tasks of office and factory and, when not prolonged, ordinary reading and sewing on light goods.

5 to 10 Footcandles—For visually controlled work in which seeing is important, but more or less interrupted or casual, and does not involve discrimination of fine details or low contrasts.

0 to 5 Footcandles—The danger zone for severe visual tasks, and for quick and certain seeing. Satisfactory for perceiving larger objects and for casual seeing.



Contrast is a most important factor in seeing. Where contrast is poor, the conditions for seeing are poor. We can compensate for poor contrast by improving the lighting under which we work



Time is a very important factor in seeing. Speed, ease and accuracy of seeing increase as the level of lighting is raised

HOW MUCH LIGHT IS ENOUGH?

The above question is something like the one asked Lincoln, "How long should a man's legs be?" And you remember his answer, "Long enough to reach the ground." It is equally difficult to lay down hard and fast rules for certain phases of home lighting. It depends upon whether you want light for beauty alone or whether the all-important thing is *seeing*.



Take the lighting of the dining room, for example. Often a man says, "I like plenty of light but my wife insists on having candles." Who is right? That is a hard one to answer. It is largely a matter of personal preference. Dining is easy on the eyes. Enough light to distinguish forks from spoons and potatoes from carrots may be sufficient. But if you use the dining room for sewing, studying or other tasks involving constant eye use—then be sure the lighting is adequate.

How much light should one have in the hall? On the porch? In the bedroom for general illumination? For the cellar stairs?

Again it is impossible to lay down any definite rules. Of course, you want enough light on the cellar stairs for *safety*. You want to be able to see where you are walking, so that you will not stumble over a kiddy car or take an unlooked for ride on a pair of roller skates. The best guide will be found in the recipes shown on pages 18 and 19.

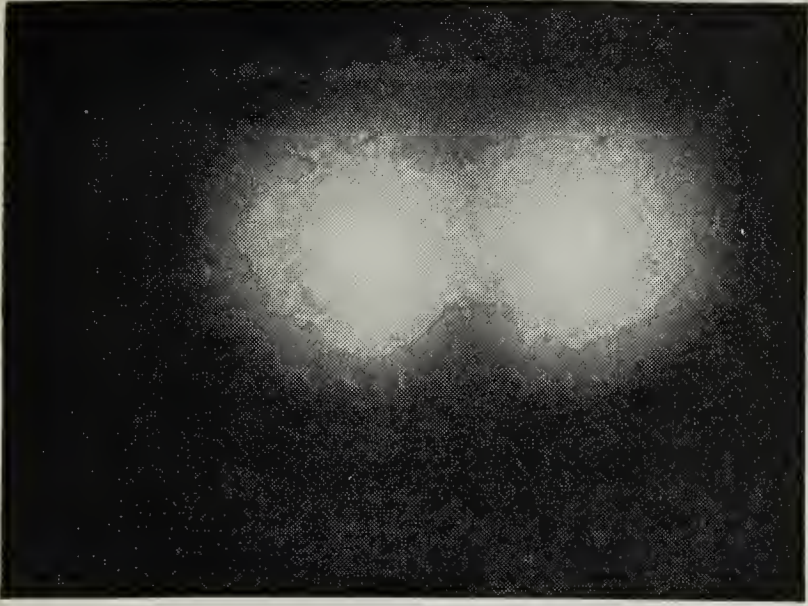


When Your Eyes Go To Work . . .

When you start to use your eyes for reading, sewing, studying, writing, playing games and similar activities, then the Science of Seeing holds up a warning hand and says:

"Be careful. When the eyes start to work, guesswork and preference end. The amount of light you need for proper seeing is not a matter of choice. There are certain definite minimums below which you cannot go with safety."

And science tells us what these minimums are. But before we give you the rules for safe seeing, we want to emphasize their important relationship to your welfare and efficiency.



Driving an automobile at night under poor seeing conditions uses up much more of your nervous energy than a daytime drive under good seeing conditions

Remember our eyes were built for out-of-doors. They work best under a shady tree where the light may be equal to 1,000 footcandles, and with ease and comfort under the 500 footcandles on the porch or the 200 near the window.

Certainly, something is radically wrong when we try to read or sew under five footcandles.

It is not only a matter of eyestrain. It is a matter of needlessly using up untold quantities of nervous energy. The statement has been made that the office worker who uses his eyes all day under inadequate light may be actually more tired at night than the man who spends a day digging ditches. The Science of Seeing indicates quite clearly that it *does* take energy to see and that seeing consumes energy just as definitely as digging ditches or washing dishes.

Suppose you drive an automobile for fifty miles on a bright sunny day over a straight piece of road. At the end of the ride you notice no particular exhaustion. But take the same automobile, the same road and make the same drive at night—in a fog. After fifty miles of this you know you have been doing some work. But the only difference has been the lighting. You have gripped that wheel, tensed your muscles, strained your whole body, not doing any particular work but using up a terrific amount of nervous energy in trying to see.

Here is the way science measured the human energy consumed in the process of seeing. Dozens of people were chosen for laboratory tests.

Each subject was seated in a comfortable chair, and asked to read page after page of a well-printed book. As he read, his hand rested on a button which he was requested to press at the end of each page. This was a means adapted for concealing the *real* purpose of the button.

What the subject did not know, however, was that he was unconsciously recording the development of nervous muscular tension produced by the reading. It was found that the average pressure unknowingly exerted upon the key was 63 grams when the reading was done under one footcandle. This pressure



dropped to 43 grams when the illumination was raised to 100 footcandles. In other words, the drain of nervous energy, as indicated by tension in the hand, was decreased *one-third by the use of more light*. Many facts are available which indicate that the eyes are entitled to at least 100 footcandles for reading—*this test proves it*.

These tests explain why the business man seated in a comfortable chair, summoning his secretary with no more work than pushing a button and using his eyes continuously under poor lighting, may be truthful when at night he says, "I'm all tired out. I have had a hard day."

His work in the office under inadequate light or improper lighting has sapped much of his energy. And when he sits down to read his newspaper after dinner, he gradually nods off and falls asleep. Insufficient light at the office and insufficient light at home have needlessly wasted much of his energy.

Typists, bookkeepers, printers, mechanics and other people who use their eyes constantly are often unnecessarily fatigued before the day is over. Proper lighting will do much to ward off this fatigue and will help them accomplish their tasks with greater ease, accuracy and speed.

WHAT THE SCIENCE OF SEEING REVEALS

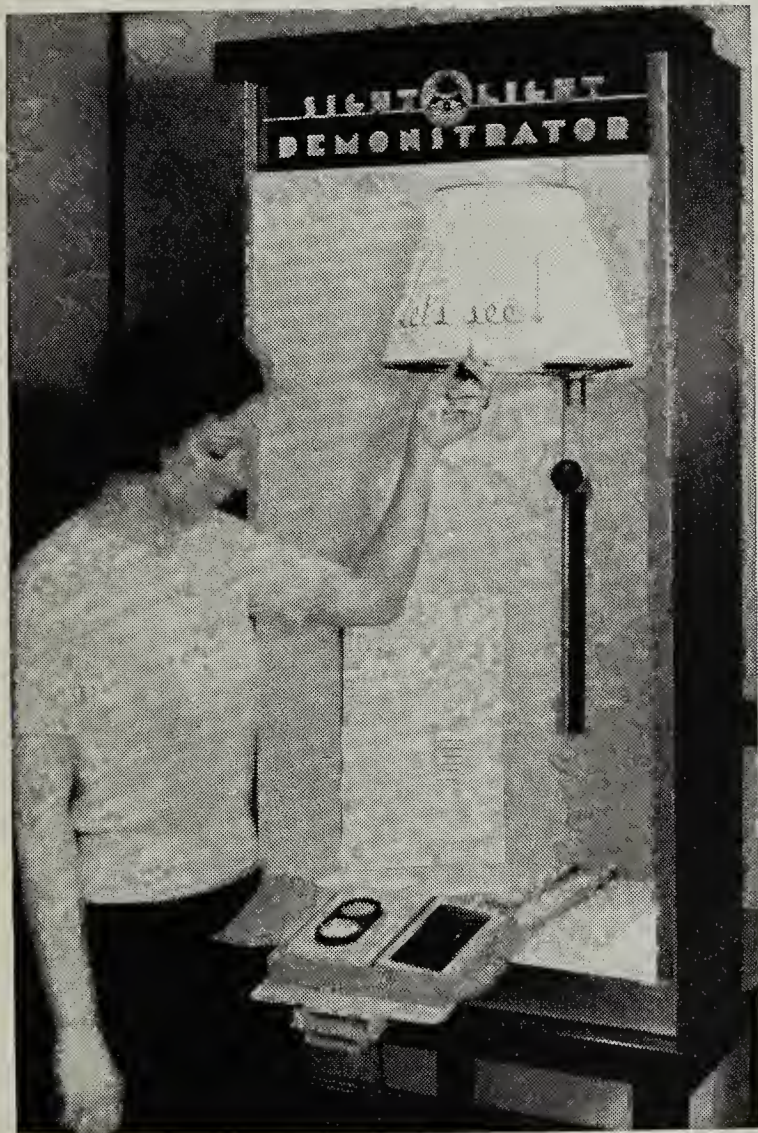
In establishing the New Science of Seeing, many startling facts have been revealed about the relation of light to sight. Here are some of them:

That . . .

1. The pupil of the eye becomes smaller with age; consequently, there is need for more light as birthdays pile up.
2. If a child has to hold the book he is reading appreciably closer to his eyes than 13 or 14 inches, the probability is that he needs eyeglasses or better lighting, or both.
3. A man who uses his eyes under poor lighting conditions for prolonged periods frequently exhibits greater nervous muscular tension than a man digging a ditch.
4. Light acts as a magnifier of small details. An object must be about twice as large to be visible under 1 footcandle of light as it would have to be under 100 footcandles. One hundred footcandles is approximately 1 per cent of maximum daylight.
5. The eyes readily adjust themselves to a variety of conditions and are slow to complain of their need for glasses and better lighting. They are unintentionally abused for their willingness.

6. Three times as much light is required for reading a newspaper as for reading a well-printed book.
7. Good lighting generally aids defective eyes even more than it helps normal eyes.
8. One-quarter of the young people, and three-quarters of all people over 50 years of age, suffer from defective vision. Inadequate light is a contributing cause.
9. Sewing is generally much harder on the eyes than reading; therefore, much more light is needed.
10. Reading in bed is usually hard on the eyes, not only because of poor posture, but also because of inadequate and improper lighting. By correcting both conditions, the strain on the eyes is materially decreased.
11. Reading when the page is brightly illuminated and the rest of the room is comparatively dark often causes unnecessary eyestrain and fatigue. Some of the light should go to the ceiling.

"But how can you prove this to me?" you ask. "It all sounds logical. I agree that it *ought* to be true and yet—somehow I am able to read pretty well under these low intensities of 5 or 10 footcandles."



A simple test device for determining and measuring the amount of light you need for comfortable, easy seeing

choose 50. Others as high as 1,000. The average intensity preferred, as shown by many tests, is around 100 footcandles—or approximately twenty times the illumination we find in most homes.

When our eyes are permitted to determine the amount of light they need, we select much higher intensities than are now provided. A rather simple experiment proves this. A lamp bulb designed to give high intensities of light—as high as 500 footcandles, is screwed into the socket of an ordinary bridge lamp. A rheostat or a control device is provided to increase or decrease the amount of light.

Wishing to make your own test, you seat yourself in a chair beside this lamp. You pick, let us say, a newspaper, and you turn the knob, raising or lowering the light until your eyes *alone* tell you that a certain amount of light seems most comfortable. Then you take a Sight Meter and measure that amount of light—right on the newspaper. What a surprise you get! Those eyes of yours, which have been reading that newspaper, due to your previous selection of lamp size, under low intensities, *have automatically selected a quantity of light 10 to 30 times as much.*

Eyes vary. A few people will select 20 footcandles. A great many will

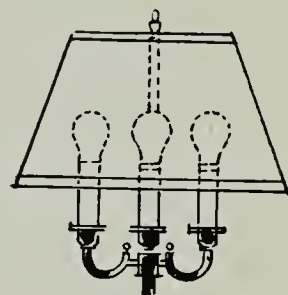
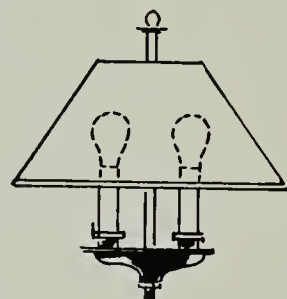
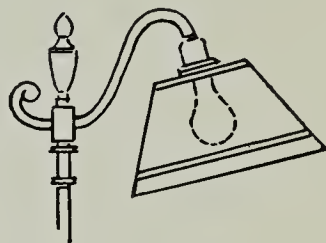
4 THINGS TO LOOK FOR

But, now you want to know what you can do about it. You want to know how you can light your home to conserve the eyesight and energy of the members of your family. And so we list the requirements for lighting a living room—where most of the eye work is done:

1. Enough light—25 to 100 footcandles.
2. Proper distribution of the light.
3. Absence of glare.
4. Enough light in enough places.

1. Enough Light . . .

Just remember that the ideal light for reading is the upwards of 1,000 footcandles under the shade of that tree. We believe that is the only reminder you need of the importance of having enough light. But you want to know *how* to get enough light. Let us answer this question in terms of wattages. No lamp, as a rule, for reading purposes should ever have less than 100 watts. A bridge lamp, conceivably, with a very good shade, might get along with 75 watts. But the average bridge or one-socket table lamp needs 100 watts in order to provide 15 to 20 footcandles at the average reading distance. If the lamp has two sockets it needs a minimum of two 60's; if it has three sockets, a minimum of two 40's and one 60, or perhaps three 60's. If lamp bulbs of these wattages tend to produce glaring light, the chances are you need new shades or new lamps of proper design.



When using your eyes for close seeing be sure to have some light in other places in the room



Having proper distribution of light is nearly as important as having enough light. Let's see what happens when we read under 50 footcandles and put no light throughout the rest of the room. The harsh contrast between our brightly lighted page and the surrounding area compels the eyes to re-adjust themselves—shift gears, so to speak, every time

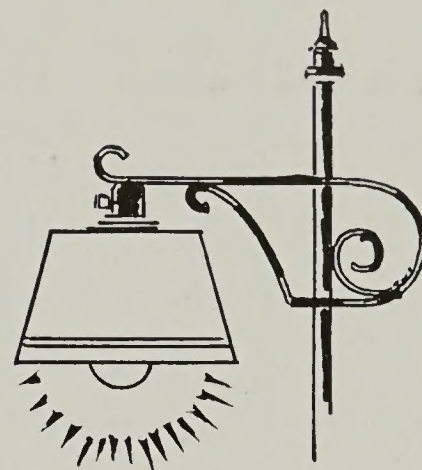
they glance out into darkened parts of the room, which they do frequently without our being aware of it. Instead of relaxing our eyes, as we think we are doing, this tends to tire them still more.

Now let's put 5 to 10 footcandles throughout the room. The brightness contrast between our book and the rest of the room is not nearly so great, and it is interesting to find that we read with much more comfort. Keep the ratio of 5 to 1—and never greater than 10 to 1—in mind when laying out the lighting for your living room, and your eyes won't suffer from contrast.

3. Glare . . .

Glare is an undesirable and usually unnecessary by-product of lighting. It may be defined as light out of place. It causes the muscles of the iris diaphragm to constrict and this constriction often results in pain and discomfort. There is also a mental strain or annoyance in holding the attention to the work.

And the solution here is simple. Have all light sources adequately shaded so that at no time do bare lamps "strike you in the eye." Since many older types of lamps are of incorrect design, it may be necessary to replace these lamps in order to prevent glare and still have adequate light.



4. Enough Light in Enough Places . . .

The final rule—and an important one—is to provide enough light in enough places so that every member of the family may read or work in comfort. One bridge lamp can never be adequate for a couch or divan. It takes two lamps, one at each end, or a floor lamp behind the couch. Light must be provided so that, at any place where one may sit and use his eyes, sufficient light is easily obtainable. Thus we need a light for the piano, a light for the desk, a light for each easy chair.

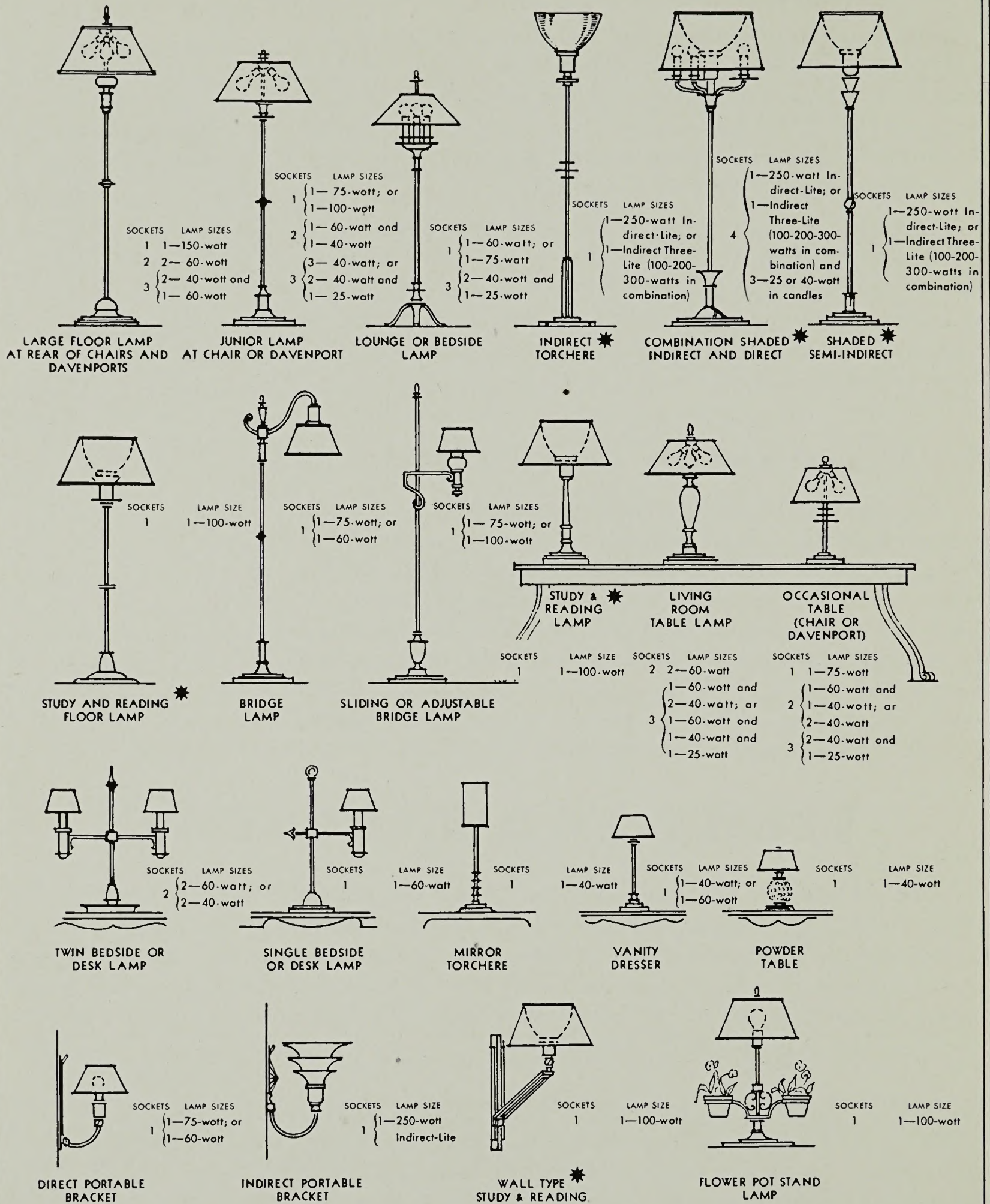
LIGHT FOR INDUSTRY

The footcandle recommendations found on page 11 furnish a guide for office, store and factory. However, there are generally so many variables to be considered in lighting for commercial and industrial use that specific recommendations can be best prescribed only after a survey of the plant or office and an understanding of the problems involved. We welcome the opportunity to make such a detailed study and analysis.



Remember to have enough light sources so that each member of the family can see without straining his or her eyes


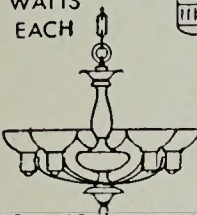



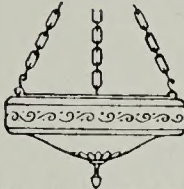



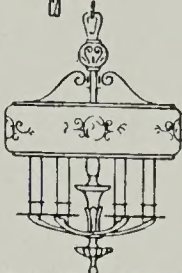
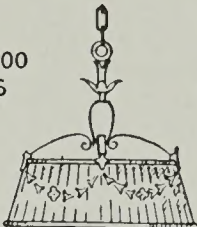


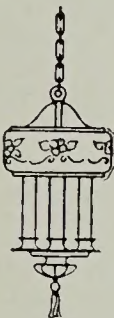


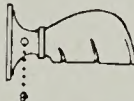






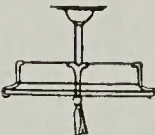

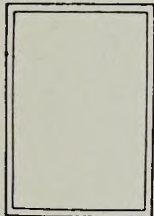
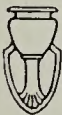
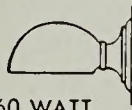

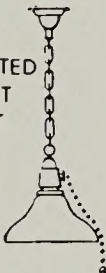



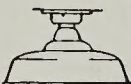

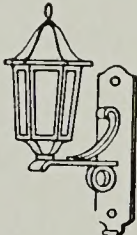
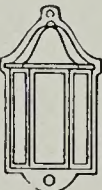


MAZDA LAMPS *for* PORTABLES



★ILLUMINATING ENGINEERING SOCIETY (I. E. S.) BETTER SIGHT LAMPS

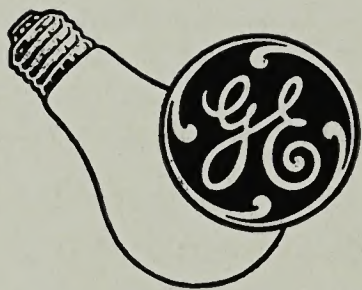
In the cases of those lamps listed above that would normally be used for reading or other comparable eye work, wattages given are those necessary to produce on the book or work, levels of light suitable for reading normal print (10 to 20 footcandles). In the case of dark or poor reflecting shades, the listed wattages will have to be increased. Variations in the wattages given for a single lamp are purposely introduced to compensate for varying distances of the lamp from the work and to allow for some flexibility in the use of the lamp.

MAZDA LAMPS *for* FIXTURES

<div><div>Living Room</div><div><p>15 or 25 WATTS EACH</p><p>40 or 60 WATTS EACH</p><p>WALL BRACKET 40 or 60 WATTS</p><p>40 or 60 WATTS EACH</p><p>40 WATTS EACH</p><p>40 or 60 WATTS EACH</p></div></div>	<div><div>Hall</div><div><p>25 or 40 WATTS</p><p>40 or 60 WATTS</p></div></div>	<div><div>Dining Room</div><div><p>150 or 200 WATTS</p><p>40 or 60 WATTS EACH</p><p>100 or 150 WATTS</p><p>40 WATTS EACH</p></div></div>	
<div><div>Breakfast Room</div><div><p>40 WATTS EACH</p><p>60 or 100 WATTS</p><p>100 or 150 WATTS</p><p>40 or 60 WATTS</p></div></div>	<div><div>Kitchen</div><div><p>100 WATT INSIDE FROSTED or 150 WATT DAYLIGHT</p><p>40 WATT INSIDE FROSTED or 60 WATT DAYLIGHT</p></div></div>	<div><div>Bed Room</div><div><p>WALL BRACKETS 40 WATTS</p><p>100 to 150 WATTS</p><p>40 WATTS EACH</p><p>25, 40 or 60 WATTS EACH</p></div></div>	
<div><div>Bath Room</div><div><p>60 or 100 WATTS</p><p>40 or 60 WATTS EACH</p><p>60 WATT</p></div></div>	<div><div>Basement</div><div><p>40 WATT INSIDE FROSTED or 60 WATT DAYLIGHT</p><p>100 WATT INSIDE FROSTED or 150 WATT DAYLIGHT</p></div></div>	<div><div>Garage</div><div><p>100 WATTS</p></div></div>	<div><div>Exterior</div><div><p>40 or 60 WATTS</p><p>25 or 40 WATTS</p><p>7131</p><p>7021</p></div></div>

All recipes are for standard inside frosted MAZDA lamps, excepting in the cases of kitchen and laundry, where the inside frosted MAZDA daylight lamp is prescribed

You should buy the lamps that light your home with the utmost care. Why? Because the quality and efficiency of the lamp determines how economically you secure good light. While all lamps may look about alike, some are so designed and constructed that they produce much more light for a given amount of current than do lamps of inferior and haphazard construction. Since lamp quality can be determined only by laboratory measurements and actual life tests, which are impossible for you to make, your only safeguard is the trade-mark of a manufacturer in whom you have confidence. Electricity is not only a wonderful servant but one of the least expensive. Use it wisely by burning lamps that give you all the light you pay for.



GENERAL ELECTRIC COMPANY
NELA PARK, CLEVELAND, O.